

AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to Fig. 11. This sheet replaces the original sheet including Fig. 11. In Fig. 11, one instance of the label "LCH" has been replaced with --RCH--.

Attachment: Replacement Sheet
 Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-5 and 7-21 are pending in the present application. Claim 6 has been cancelled. Claims 12-21 are new. Claims 1, 8, and 13 are independent claims. The Examiner is respectfully requested to reconsider his rejections in view of the Amendments and the following Remarks.

Applicants have amended independent claim 8 by replacing "demodulation means" with --demodulator-- in order to maintain consistent use of terms. Applicants respectfully submit that this amendment does not substantively change the scope of the claim. Also, the amendment was not made for a reason relating to patentability. Instead, the amendment concerns purely formal matters.

Claim for Priority

It is gratefully acknowledged that the Examiner has recognized Applicant's claim for foreign priority. In view of the fact that Applicant's claim for foreign priority has been perfected, no additional action is required from Applicant at this time.

Drawings

Attached herewith is a correction to the drawings. Specifically, the label "LCH" at the output of element 315 has been changed to --RCH--. It is respectfully submitted that this correction does not add new matter to the application. Specifically, this amendment is supported in the specification in page 35, third paragraph, which refers to element 315 as "an Rch correction means."

It is respectfully submitted that the Formal Drawings, as corrected, comply with the requirements of the USPTO. Should the Examiner have any objections to the drawings, it is respectfully requested that the undersigned be contacted as soon as possible so that the appropriate action may be taken. Unless such notification is received, no further action is believed to be necessary.

Acknowledgment of Information Disclosure Statement

The Examiner has acknowledged each Information Disclosure Statement (IDS) filed on July 14, 2000; September 30, 2002; and March 6, 2003. An initialed copy of the PTO-1449 has been received from the Examiner.

However, Applicants note that in the copy of the PTO-1449 of July 14, 2000, the foreign reference (JP 63-087026) seems to

be both initialed and crossed-out. Thus, it is unclear to Applicant whether this foreign reference has actually been considered. Thus, attached hereto is another copy of the PTO-1449 filed on July 14, 2000. Applicant respectfully requests the Examiner to return an initialed copy of this PTO-1449 to acknowledge that the reference has been considered.

Rejection Under 35 U.S.C. § 112

The Examiner rejected independent claim 1 under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the enablement requirements. Specifically, the Examiner asserts that the specification does not provide enablement of:

a second corrector outputting the correction signals for correcting the noise according to at least one of the values of the demodulated audio signals which are respectively smoothed before and after the generation period of the noise which is detected by the noise detector (Office Action at page 2; emphasis by Examiner)

Independent claim 1 has been amended to recite that the second corrector outputs the correction signals according to "at least one of: one or more values of the demodulated audio signal which occur before the generation period...and one or more values of the demodulated audio signal which occur after the generation period."

Applicants respectfully submit that the specification provides more than the requisite amount of enablement for the amended features.

In particular, the specification clearly describes a high band corrector 12 that uses an averaged value of the demodulated audio signal level in the periods (i.e., "average periods") occurring before and after the period containing the pulsive noise (i.e., the claimed "generation period"). See specification at page 15, line 24 - page 16, line 11. The specification further discloses that the average value of each average period is obtained "according to a plurality of signal values" (page 16, lines 7-11).

Thus, Applicants respectfully submit that the originally filed specification clearly enables the features presently recited in claim 1. As such, reconsideration and withdrawal of this rejection is respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 8, 10, and 11 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 4,574,390 to Hirohashi et al. (hereafter Hirohashi). This rejection is respectfully traversed.

MPEP § 2131 sets forth the following requirements for a §
102 rejection:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. Of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claims." *Richardson v. Suzuki Motor Co.*, 868 F2d 1226, 1236, 9 USQP2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 8 recites detecting noise in a signal having the information corresponding to audio signals of a plurality of channels, demodulating the signal and outputting the audio signal corresponding to each channel from the information, and independently correcting each audio signal. Hirohashi fails to disclose these features.

Hirohashi discloses first and second embodiments of a noise reduction circuit for demodulating a frequency modulated (FM) signal (using demodulator 4) and performing noise correction on the signal. Applicants respectfully submit that neither of these embodiments discloses each of the abovementioned features recited in claim 8.

In Hirohashi's first embodiment (Fig. 1), the demodulated signal is **separated into left and right channel components** by the separation circuit 5. Hirohashi further discloses separate

noise reduction circuits 6L and 6R for correcting the left and right channel components, respectively. In Hirohashi, each of the noise reduction circuits 6L and 6R includes a noise detector 8 that **detects noise in the individual channel component**. See Fig. 1; col. 4, lines 5-15. Thus, Hirohashi's first embodiment fails to disclose detecting noise in a demodulated signal **having information corresponding to audio signals of a plurality of channels**, as required by independent claim 8.

In Hirohashi's second embodiment in Fig. 4, the demodulated FM signal produced by demodulator 4 is sent to the noise detector 95 in the sampling pulse generator 80 (see Fig. 5). This demodulated FM signal, which includes the information regarding the audio signals for **both the left and right channels**, is also sent to the left and right channel noise reduction circuits 60L and 60R (see Fig. 4). As such, Hirohashi's second embodiment fails to disclose that each channel's audio signal is demodulated before being sent to the corresponding noise level correction circuit. Accordingly, Hirohashi's second embodiment fails to teach correcting each channel's audio signal **after the audio signal has been demodulated from the information corresponding to the plurality of audio signals**, as required by independent claim 8.

At least for the reasons set forth above, it is respectfully submitted that Hirohashi does not set forth each and every element as defined in the claim 8. As such, Applicants respectfully submit that claim 8 is allowable. Furthermore, Applicants submit that claims 10 and 11 are allowable at least by virtue of their dependency on claim 8.

Thus, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Rejection Under 35 U.S.C. § 103

Claims 1, 4, 5, 7

Claims 1, 4, 5, and 7 stand rejected under 35 USC § 103(a) as being unpatentable over Hirohashi in view of EP Patent Publication No. 0477460 A2 to Nakamura et al. (hereafter Nakamura). This rejection is respectfully traversed.

In page 4 of the Office Action, the Examiner admits that Hirohashi fails to disclose selecting one of a first and second corrector according to the output of a high band level detector. However, the Examiner relies on Nakamura to remedy this deficiency. Specifically, the Examiner asserts that:

...Nakamura teaches a high band level detector (see fig.1, 5) [sic] detecting the level of a high band component (2, amplifier) or said second (9-11) correctors according to the output of said high band level detection means...

Applicants respectfully disagree with the Examiner's interpretation of Nakamura.

Initially, Applicants point out that Nakamura's elements 9-11 are used for detecting the pilot signal in the received signal and generating pulses that are used by demodulator 7 for demodulating the left and right channel signals from the received signal. See Nakamura at col. 1, lines 29-34; col. 3, lines 5-17 and 38-41. As such, these pulses do not represent a correction signal for correcting noise.

In Nakamura, the composite signal from amplifier 2 is applied to the demodulator 7 via the gate 3. When the level detector 5 detects a noise, the gate control circuit 8 generates control pulses CP that cause the gate 3 to close and prevent the composite signal from being applied. When the gate 3 is closed, the voltage stored in capacitor C (i.e., the voltage level held from the composite signal) is applied to the demodulator 7. See col. 3, lines 28-35.

Therefore, Nakamura's gate 3 does **not select between the signal in the amplifier 2 and the signal in elements 9-11**, as asserted by the Examiner. In fact, **neither of these signals are correction signals for correcting noise**. Instead, Nakamura's gate 3 either applies the composite signal (via amplifier 2), or

applies a held voltage level of that composite signal, based on the absence or presence of noise.

Accordingly, Hirohashi and Nakamura fails to teach or suggest selecting between correction signals for correcting noise, either alone or in combination, as required by independent claim 1. It is respectfully submitted that claim 1 is allowable at least for this reason. Furthermore, Applicants submit that claims 4, 5, and 7 are allowable at least by virtue of their dependency on claim 1.

Accordingly, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claim 9

Claim 9 stands rejected under 35 USC § 103(a) as being unpatentable over Hirohashi in view of U.S. Patent No. 6,233,443 to Brommer (hereafter Brommer). Applicants respectfully submit that Brommer fails to remedy the deficiencies of Hirohashi set forth above in connection with independent claim 8. Thus, it is respectfully submitted that claim 9 is allowable at least by virtue of its dependency on claim 8.

Accordingly, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claims 2, 3

Claims 2 and 3 stand rejected under 35 USC § 103(a) as being unpatentable over Hirohashi in view of Nakamura, and further in view of Brommer. Applicant respectfully submits that Brommer fails to remedy the deficiencies of Hirohashi and Nakamura, as set forth above in connection with independent claim 1. Therefore, Applicants submit that claims 2 and 3 are allowable at least by virtue of their dependency on claim 1.

Thus, the Examiner is respectfully requested to reconsider and withdraw this rejection.

New Claims

Claims 12-21 are newly added to the present application. Applicants respectfully submit that the filing of these new claims does not add any new matter to the present application. Specifically, support for the subject matter of new claims 13-17 and 19-21 can be found in, e.g., the originally filed claims; Figs. 2A and 2B; and page 14, line 3 - page 16, line 15 of the specification. Support for new claims 12 and 18 can be found in the specification at page 21, line 24 - page 22, line 3.

It is respectfully submitted that the cited references, either taken alone or in combination, fails to teach or suggest the combination of elements in new independent claim 13.

Accordingly, Applicants respectfully submit that new claims 13-21 are presently in condition for allowance. Furthermore, it is respectfully submitted that new claim 12 is allowable at least by virtue of its dependency on an allowable claim (claim 1).

Conclusion

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but to merely show the state of the art, no comment need be made with respect thereto.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request the Examiner to reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

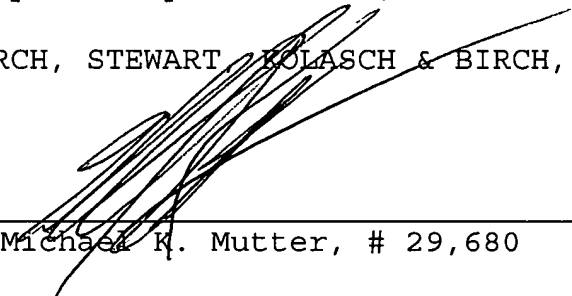
Should the Examiner believe that any outstanding matters remain in the present application, the Examiner is respectfully requested to contact Jason W. Rhodes (Reg. No. 47,305) at the telephone number of the undersigned to discuss the present application in an effort to expedite prosecution.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.


Respectfully submitted,

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MKM/JWR

Attachments: Replacement Sheet (1)
Annotated Sheet (1)
Copy of PTO-1449 filed on July 14, 2000